

REMARKS

Reconsideration and withdrawal of the rejections of the claimed invention is respectfully requested in view of the amendments, remarks and enclosures herewith, which place the application in condition for allowance.

I. STATUS OF CLAIMS AND FORMAL MATTERS

Claims 1 and 4-13 are now pending in this application. In order to expedite prosecution, the element of claim 3 has been inserted into claim 1 and claims 2 and 3 have been cancelled. have been amended to correct minor typographical errors. Claims 8 and 9 have been amended to repeat the element of claim 6 for additional embodiments of the invention. Claim 13 have been added to encompass and additional embodiment of the invention. No new matter has been added by this amendment.

A second Information Disclosure Statement is being filed which includes an English abstract for KR 10-0424503.

It is submitted that the claims, herewith and as originally presented, are patentably distinct over the prior art cited in the Office Action, and that these claims were in full compliance with the requirements of 35 U.S.C. § 112. The amendments of the claims, as presented herein, are not made for purposes of patentability within the meaning of 35 U.S.C. §§§§ 101, 102, 103 or 112. Rather, these amendments and additions are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

II. THE OBJECTION TO THE SPECIFICATION HAS BEEN OVERCOME

The objection to the specification has been overcome by the above amendment as the figure was not necessary for the understanding of the invention (similar terminology had been used in the Yim reference cited below, now U.S. Patent 6,632,748).

III. THE OBJECTION TO THE SPECIFICATION HAS BEEN OVERCOME

The objection to claim 2 has been rendered moot by the cancellation of this claim.

IV. THE 35 U.S.C. 112, 2nd PARAGRAPH REJECTION HAS BEEN OVERCOME

The rejection of this claim has been rendered moot by the cancellation of claim 3.

V. THE 35 U.S.C. 103(a) REJECTION HAS BEEN OVERCOME

A. Claims 1, 4-7 and 10-12 were rejected as allegedly being obvious by Yim et al. (US 2003-0055134 -"Yim"). The applicants request reconsideration of this rejection for the following reasons.

Yim does not render the applicants' claimed invention as amended to be obvious because all elements of the applicants' invention have not been taught. (Applicants also note that KR 2002-75720, referred to by the applicants on page 14 of the specification, is the parallel Korean application to Yim).

1. Breadth of Yim's teachings render applicants' claimed invention to be non-obvious

The broad teachings of Yim are referred to in the Office Action, but there appears to be no support for these broad teachings which is further evidenced by the claims which were ultimately allowed in the Yim reference – see prosecution history and claims as allowed in U.S. Patent 6,632,748.

Moreover, the applicants' claimed dielectric film is directed a specific combination of elements, namely an organic solvent 40-70 vol% of a copolymer of methyltrimethoxysilane and α,ω -bistrimethoxysilylethane and 30-60 vol% of acetylcyclodextrin nanoparticles which are simultaneously part of the invention, i.e. the breadth of Yim teaches actually detracts from a holding of obviousness because of the many different permutations from Yim act to hide the applicants' invention from one of ordinary skill in the art.

"To differentiate between proper and improper applications of "obvious to try," [the CAFC has] outlined two classes of situations where "obvious to try" is erroneously equated with obviousness under § 103. In the first class of cases,

what would have been "obvious to try" would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful.

Id. In such circumstances, *where a defendant merely throws metaphorical darts at a board filled with combinatorial prior art possibilities*, courts should not succumb to hindsight claims of obviousness." *In re Kubin*, No. 2008-1884, slip op. at 14 (Fed. Cir. April 3, 2009).

Here, Yim generically refers to silsesquioxanes which can be derived from organic polysiloxanes such as hydrogen silsesquioxanes, alkyl silsesquioxanes, aryl silsesquioxanes and copolymers of these silsesquioxanes. See paragraph [0018] of Yim.

This does not suggest the copolymer of **methyltrimethoxysilane** and **α,ω -bistrimethoxysilylethane**. Even if one of ordinary skill in the art would have been able to pick and choose this precise copolymer combination, the artisan would have been forced to make this

selection with the knowledge that acetylcyclodextrin nanoparticles should have been selected as the cyclodextrin for combination with the copolymer of **methyltrimethoxysilane** and **α,ω -bistrimethoxysilylethane** and then, further still, select that the amount of copolymer of **methyltrimethoxysilane** and **α,ω -bistrimethoxysilylethane** should have been 40-70 vol. % and the amount of acetylcyclodextrin nanoparticles should have been 30-60 vol. %, i.e. the analysis is not whether each individual component was obvious or non-obvious as the applicants are not claimed each element in isolation, but whether this specific combination of elements was obvious in light of the teachings of Yim. As Yim provides no guidance toward this specific selection of elements, Yim represents some akin to the “combinatorial prior art possibilities” and the skilled artisan has been reduced to throwing the “metaphorical darts”.

2. Applicants provided evidence of secondary considerations against Yim which was not considered in the Office Action

As noted above, the Yim reference is parallel to KR 2002-75720 (see INPADOC link from EPO patent database for listing of Yim’s U.S. Publication). The applicants provided data in the specification (“Experimental Example 2”) which made a comparison with an embodiment of the applicants’ claimed invention vs. an embodiment of the invention referred to by Yim.

As can be seen from the graph of Figure 1, the copolymer/cyclodextrin combination of the present invention allowed for about 60% porogen loading in the matrix with a maximum of about 60% porosity and a greatly reduced dielectric constant of 1.52. In contrast, the silsesquioxane/cyclodextrin combination of Yim resulted in less porogen loading, decreased porosity and a dielectric constant of 1.90.

These combination of results represents an unexpected improvement for the claimed ultra-low dielectric film currently claimed and represents evidence that the claimed invention is unobvious over Yim.

Therefore, Yim does not render the applicants’ claims as amended to be obvious as it does not direct one of ordinary skill in the art to the specifically claimed combination of elements of the applicants’ invention and the applicants’ have provided evidence which tends toward unobviousness over Yim.

B. Claims 1-12 were rejected as allegedly being obvious by Ko et al. (US 2001-0055891 -“Ko” – now U.S. Patent 6,806,161) in view of Yim. The applicants request reconsideration of this rejection for the following reasons.

The applicants' arguments with respect to Yim are incorporated by reference here. With respect to the combination of the teachings of Ko with Yim, the applicants note that when Ko is referencing the mixing of methyltrimethoxysilane and bis-trimethoxysilane in THF solvent, i.e. Ko is forming a composition wherein the chemical and physical characteristics of methyltrimethoxysilane and bis-trimethoxysilane remain intact; Ko is not subjecting this composition to further processing to form a copolymer as in the applicants' claimed invention and as such is unrelated to both the applicants' claimed invention and that of Yim.

As further evidence of the difference between this aspect of the applicants' invention and Ko, the dielectric constant of the applicants' dielectric film was decreased to 1.52 whereas the Examiner acknowledged that the dielectric constant of Ko's invention was 3.3.

Therefore, the combination of Ko and Yim does not render the applicants claimed inventions obvious for the reasons cited above for Yim and because Ko is referencing a different invention that either Yim or the applicants.

CONCLUSION

In view of the remarks and amendments herewith, the application is believed to be in condition for allowance. Favorable reconsideration of the application and prompt issuance of a Notice of Allowance are earnestly solicited. The undersigned looks forward to hearing favorably from the Examiner at an early date, and, the Examiner is invited to telephonically contact the undersigned to advance prosecution. The Commission is authorized to charge any fee occasioned by this paper, or credit any overpayment of such fees, to Deposit Account No. 50-0320.

Respectfully submitted,
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